

Appendix A: Table 1. General Route Impacts

Dane County Electric Reliability Initiative - North Madison to Huiskmap 138-kV Project
Dane County, Wisconsin

ROUTE / SEGMENT	TOTAL LENGTH		EXISTING T-LINE ROW		ADD'L ROW REQUIRED		TOTAL (AC)	# Residences ¹ Nearest distance from segment centerline (ft) ²					Existing Overhead Distribution Length	Corridor Sharing ³		
	FT	MI	WIDTH (FT)	AREA (AC)	WIDTH (FT)	AREA (AC)		0	26'	51'	101'	151'	Distance (ft)	(ft)	%	Type(s)
								- 25'	- 50'	- 100'	- 150'	- 300'				
Preferred																
1	3,698	0.7	80	6.8	0	0.0	6.8	0	0	0	0	1-A	0	3,698	100	TL
56	2,648	0.5	0	0.0	45	2.7	2.7	0	0	0	0	0	2,648	2,648	100	RD/DL
47	2,681	0.5	0	0.0	45	2.8	2.8	0	0	1-A	1-A	1-A, 1-U	2,681	2,681	100	RD/DL
49	7,919	1.5	0	0.0	45	8.2	8.2	0	0	0	3-A	3-A, 4-U	3,900	7,919	100	RD/DL
58	5,350	1.0	0	0.0	45	5.5	5.5	0	0	1-A	1-A, 1-U	1-U	0	5,350	100	RD
9	2,432	0.5	0	0.0	45	2.5	2.5	0	0	1-A	1-A, 1-U	1-A,2-U	2,432	2,432	100	RD/DL
14	5,361	1.0	0	0.0	45	5.5	5.5	0	0	1-A	1-A, 1-U	3-A, 1-U	3,366	5,361	100	RD/DL
26	5,330	1.0	0	0.0	45	5.5	5.5	2-U	1-A, 1-U	1-U	1-U	3-A	925	5,330	100	RD/DL
32	4,056	0.8	0	0.0	45	4.2	4.2	0	0	1-A	1-A, 1U	1-A	1,900	4,056	100	RD
61	1,519	0.3	0	0.0	45	1.6	1.6	0	0	0	0	0	1,519	1,519	100	DL
35	3,855	0.7	0	0.0	45	1.9	1.9	0	0	1-U	2-U	3-A, 3-U	0	3,000	78	RD
36	558	0.1	80	1.0	0	0.0	1.0	0	0	0	0	0	0	558	100	TL
Total	45,407	8.6		7.8		40.4	48.2	2-U	1-A, 1-U	5-A, 2-U	8-A, 7-U	16-A, 12-U	19,371	44,552	98	TL/RD/DL
Alternate																
2a	2,647	0.5	0	0.0	80	4.9	4.9	0	0	0	0	0	0	2,647	100	SUBSTN
2b	2,241	0.4	0	0.0	45	2.3	2.3	0	0	0	0	1-A, 1-U	2,241	2,241	100	RD/DL
3	2,670	0.5	0	0.0	45	2.8	2.8	0	0	0	1-A	1-U	2,670	2,670	100	RD/DL
43a	7,968	1.5	0	0.0	45	8.2	8.2	0	0	2-A, 1-U	2-A	3-A	2,627	7,968	100	RD/DL
45	3,855	0.7	0	0.0	45	4.0	4.0	0	0	0	0	0	0	3,855	100	RD
8b	5,292	1.0	0	0.0	45	5.5	5.5	0	0	1-U	1-A	2-A, 1-U	0	5,291	100	RD
13	5,270	1.0	0	0.0	45	5.4	5.4	0	0	1-A	0	2-A, 1-U	2,600	5,270	100	RD/DL
24	4,657	0.9	0	0.0	45	3.2	3.2	0	0	0	0	0	0	3,960	85	RD
27	1,847	0.3	80	3.4	0	0.0	3.4	0	0	1-U	1-A	3-A	0	1,847	100	TL
31	7,609	1.4	80	14.0	0	0.0	14.0	0	0	0	0	9-A	0	7,609	100	TL
34	1,063	0.2	80	2.0	0	0.0	2.0	0	0	0	0	0	0	1,063	100	TL
36	558	0.1	80	1.0	0	0.0	1.0	0	0	0	0	0	0	558	100	TL
Total	45,677	8.7		20.3		36.2	56.6	0	0	3-A, 3-U	5-A	20-A, 4-U	10,138	44,979	98	TL/RD/DL

¹ Residence descriptors: A = single family home, B = duplex, C = apartment w/4 units, D = apartment w/8 units, E = apartment w/>8 units, F = mobile home, G = school, H = day-care center, U = uninhabitable (i.e., garages, sheds, other non-farm or non-commercial outbuildings associated with homes), L = church.

² The centerline of segments along roads was located about 5 feet outside of the road ROW with a total ROW width of 45 feet. Road ROW boundaries were estimated from aerial photos.

³ Percent corridor sharing is based on corridor length. Corridor Types: RR = railroad, RD = roadway, TL = transmission line, DL = distribution line, SUBSTN = inside substation

Appendix A: Table 2a. Impacts by Land Type

Dane County Electric Reliability Initiative - North Madison to Huiskmap 138-kV Project
Dane County, Wisconsin

ROUTE / SEGMENT	Total			Zoning ¹				Land Use ²								Ownership ⁶					
				Residential		Commercial / Industrial		Agriculture		Forest Land ³		Wetlands ⁴		Uplands ⁵		Municipal		County		State	
	Length (ft)	Miles	Acres	Length (ft)	Acres	Length (ft)	Acres	Length (ft)	Acres	Length (ft)	Acres	Length (ft)	Acres	Length (ft)	Acres	Length (ft)	Acres	Length (ft)	Acres	Length (ft)	Acres
Preferred																					
1	3,698	0.7	7.6	0	0.00	0	0.00	3,422	7.13	0	0.00	0	0.00	276	0.49	0	0.00	0	0.00	0	0.00
56	2,648	0.5	4.9	0	0.00	0	0.00	2,624	4.14	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
47	2,681	0.5	4.9	0	0.00	0	0.17	485	0.83	0	0.36	0	0.00	2,196	0.46	150	0.14	0	0.00	0	0.00
49	7,919	1.5	14.5	0	0.08	0	0.00	4,041	7.57	0	0.29	20	0.04	3,858	1.68	0	0.00	0	0.00	0	0.00
58	5,350	1.0	9.8	0	0.06	0	0.00	2,930	5.68	0	0.00	0	0.00	2,420	1.97	0	0.00	0	0.00	0	0.00
9	2,432	0.5	4.5	200	0.24	0	0.00	1,748	2.97	0	0.00	0	0.00	684	0.32	0	0.00	0	0.00	0	0.00
14	5,361	1.0	9.8	528	0.65	0	0.00	3,092	5.24	0	0.00	0	0.00	2,269	1.84	0	0.00	0	0.00	0	0.00
26	5,330	1.0	9.8	17	0.04	0	0.00	4,463	4.56	0	0.00	0	0.00	867	1.82	0	0.00	0	0.00	0	0.00
32	4,056	0.8	7.4	0	0.00	0	0.00	1,934	3.28	0	0.00	297	0.52	1,825	3.38	0	0.00	0	0.00	0	0.00
61	1,519	0.3	2.8	0	0.00	0	0.00	0	0.19	0	0.00	60	0.11	1,459	2.49	0	1.62	0	0.00	0	0.00
35	3,855	0.7	7.1	0	0.00	1,235	1.58	677	0.42	0	0.00	249	1.09	2,930	4.19	0	3.47	0	0.00	0	0.00
36	558	0.1	1.2	0	0.00	543	0.72	0	0.00	0	0.00	0	0.00	558	1.15	0	0.00	0	0.00	0	0.00
Total	45,407	8.6	84.4	745	1.07	1,778	2.47	25,416	42.01	0	0.65	626	1.76	19,341	19.80	150	5.23	0	0.00	0	0.00
Alternate																					
2a	2647	0.5	5.5	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2,647	5.5	0	0.00	0	0.00	0	0.00
2b	2241	0.4	4.1	0	0.00	0	0.00	1,762	2.70	0	0.00	0	0.00	479	1.4	0	0.00	0	0.00	0	0.00
3	2670	0.5	4.9	0	0.00	0	0.00	626	1.31	0	0.95	544	0.99	1,500	0.5	0	0.00	0	0.00	0	0.00
43a	7968	1.5	14.6	51	0.17	0	0.00	5,668	7.55	0	0.38	0	0.00	2,300	1.7	0	0.00	0	0.00	0	0.00
45	3855	0.7	7.1	0	0.00	0	0.00	3,708	4.34	0	0.00	0	0.00	147	1.4	0	0.00	0	0.00	0	0.00
8b	5292	1.0	9.7	0	0.00	0	0.00	4,678	7.43	0	0.00	0	0.00	614	0.4	0	0.00	0	0.00	0	0.00
13	5270	1.0	9.7	0	0.00	0	0.00	4,833	7.04	0	0.00	0	0.00	437	0.9	0	0.00	0	0.00	0	0.00
24	4657	0.9	8.6	0	0.00	0	0.00	986	1.19	0	0.00	98	0.25	3,573	4.7	222	5.31	0	0.00	0	0.00
27	1847	0.3	3.8	0	0.00	0	0.00	1,003	0.81	0	0.00	0	1.39	844	1.6	1733	2.46	0	0.00	0	0.00
31	7609	1.4	15.7	0	0.00	0	0.03	4,003	4.13	0	0.00	2,223	5.01	1,383	6.6	0	4.99	0	0.00	0	0.00
34	1063	0.2	2.2	0	0.00	732	1.34	398	0.83	0	0.00	172	0.27	493	1.1	0	0.00	0	0.00	0	0.00
36	558	0.1	1.2	0	0.00	514	0.75	0	0.00	0	0.00	0	0.00	558	1.2	0	0.00	0	0.00	0	0.00
Total	45,677	8.7	87.0	51	0.17	1,246	2.12	27,665	37.33	0	1.33	3,037	7.91	14,975	26.99	1,955	12.76	0	0.00	0	0.00

¹ Data from Dane County GIS Zoning layer. Lengths were calculated based on the proposed and alternate centerline crossings. Areas were calculated using a 45 foot corridor extending from the edge of road ROW, or an 80 foot corridor shared with existing transmission line ROW.

² Refers to extent of agricultural land, forest land, wetlands and uplands based on aerial photograph interpretation and field investigation.

³ Refers to tree-dominated communities with > 20% canopy cover, crossing into the ROW and extending for at least 75 feet along it. Small clusters of trees associated with residences and areas with < 20% canopy cover were not considered forested areas. Forested wetlands are included under the "wetland" heading. Segment 31 is an existing transmission line ROW that is routinely cleared of tall growing trees, although part of the ROW is adjacent to forested land.

⁴ Wetland distances and acreages may also include open water and were based on field delineated wetland boundaries. Distances given are across the ROW centerline.

⁵ All other land-types not listed separately, excluding road ROW.

⁶ No Federal Lands, County Land or Native American Reservations are located along any of the segments for either route. Does not include road ROWs (18,279 feet and 19.82 acres for the preferred route and 16,252 feet and 16.85 acres for the alternate route).

Note: Corrections were not made for segment corridor overlaps when calculating zoning, land use, and ownership areas so these areas may be over-estimated by up to 0.5%. Some zoning, land use, and ownership types included in each corridor are not crossed by the centerline, so lengths and areas do not match in all cases.

APPENDIX A, FIGURE 2A

Appendix A: Table 2b. Distance to Government, Commercial, and Agricultural Structures
Dane County Electric Reliability Initiative - North Madison to Huiskmap 138-kV Project
Dane County, Wisconsin

ROUTE / SEGMENT	No. of Government, Business, Industry Structures Nearest distance from segment centerline (ft) ¹						# Farm Operation / Other Farm Outbuilding Structures Distance from segment centerline (ft) ¹					
	Total	0 - 25'	26' - 50'	51' - 100'	101' - 150'	151' - 300'	Total	0 - 25'	26' - 50'	51' - 100'	101' - 150'	151' - 300'
Preferred												
1	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0
47	4	0	0	2	0	2	0	0	0	0	0	0
49	0	0	0	0	0	0	6	0	0	0	0	6
58	0	0	0	0	0	0	7	0	0	0	1	6
9	0	0	0	0	0	0	7	0	0	0	0	7
14	0	0	0	0	0	0	5	0	0	0	2	3
26	0	0	0	0	0	0	5	2	1	0	2	0
32	0	0	0	0	0	0	4	0	0	0	2	2
61	0	0	0	0	0	0	0	0	0	0	0	0
35	5	0	0	1	2	2	0	0	0	0	0	0
36	1	0	0	0	0	1	0	0	0	0	0	0
Total	10	0	0	3	2	5	34	2	1	0	7	24
Alternate												
2a	0	0	0	0	0	0	0	0	0	0	0	0
2b	0	0	0	0	0	0	2	0	0	0	0	2
3	1	0	0	1	0	0	0	0	0	0	0	0
43a	0	0	0	0	0	0	15	0	1	1	3	10
45	0	0	0	0	0	0	0	0	0	0	0	0
8b	0	0	0	0	0	0	8	0	0	1	0	7
13	0	0	0	0	0	0	0	0	0	0	0	0
24	19	2	3	5	4	5	0	0	0	0	0	0
27	5	0	0	0	0	5	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0
36	3	0	0	0	0	3	0	0	0	0	0	0
Total	28	2	3	6	4	13	25	0	1	2	3	19

¹ The centerline of segments along roads was located about 5 feet outside of the road ROW. Road ROW boundaries were estimated from aerial photos. Substation and transmission line structures were not included.

Appendix A: Table 3. Route Summary Table
Dane County Electric Reliability Initiative - North Madison to Huiskmap 138-kV Project
Dane County, Wisconsin

ROUTE	TOTAL LENGTH	EXISTING ROW	ADD'L ROW	CORRIDOR SHARING ¹	# RESIDENCES ^{2, 3} Distance from segment centerline (ft)						FOREST ⁴	WETLANDS	AGRICULTURE	UPLANDS ⁵	# BUSINESS/OFFICE/INDUSTRY Distance from segment centerline (ft)						# FARMING OPERATION Distance from segment centerline (ft)						COMM / INDUS. ZONING LENGTH (MILE) ⁶	RESIDENTIAL ZONING LENGTH (MILE) ⁶
	MILES	AREA (AC)	AREA (AC)	%	Total	0 - 25'	26' - 50'	51' - 100'	101' - 150'	151' - 300'	AREA (AC)	AREA (AC)	AREA (AC)	AREA (AC)	Total	0 - 25'	26' - 50'	51' - 100'	101' - 150'	151' - 300'	Total	0 - 25'	26' - 50'	51' - 100'	101' - 150'	151' - 300'		
PREFERRED ROUTE																												
Segments 1, 56, 47, 49, 58, 9, 14, 26, 32, 61, 35, 36	8.6	7.8	40.4	98%	30-A, 24-U	2-U	1-A, 1-U	5-A, 2-U	8-A, 7-U	16-A, 12-U	0.65	1.76	42.01	19.80	10	0	0	3	2	5	34	2	1	0	7	24	2.47	1.07
ALTERNATE ROUTE																												
Segments 2a, 2b, 3, 43a, 45, 8b, 13, 24, 27, 31, 34, 36	8.7	20.3	36.2	98%	28-A, 7-U	0	0	3-A, 3-U	5-A	20-A, 4-U	1.33	7.91	37.33	25.99	28	2	3	6	4	13	25	0	1	2	3	19	2.12	0.17

¹ Percent corridor sharing is based on corridor length.

² Residence descriptors: A = single family home, B = duplex, C = apartment w/4 units, D = apartment w/8 units, E = apartment w/>8 units, F = mobile home, G = school, H = day-care center, U = uninhabitable (i.e., garages, sheds, other non-farm or non-commercial structures)

³ Refers to the total number of structures along a *route*. These structure totals may vary somewhat from Tables 1 and 2a as those tables reflect structure numbers by *segment* and therefore may include structures more than once (e.g., structures located near segment nodes)

⁴ Refers to tree-dominated communities with > 20% canopy cover, crossing into the ROW and extending for at least 75 feet along it. Small clusters of trees associated with residences and areas with < 20% canopy cover were not considered forested areas. Forested wetlands are included under the "wetland" heading. Segment 31 is an existing transmission line ROW that is routinely cleared of tall growing trees, although part of the ROW is adjacent to forested land.

⁵ Exclusive of agricultural, developed and forested land

⁶ Extent of Residential and Commercial/Industrial areas based on current Dane County zoning information